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Health

Quarter 2 – Module 4:
Proper Waste Management

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ADM

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Secretary: Leonor Magtolis Briones
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Development Team of the Module

Writer: Francilet R. Padios

Editor: Elsie P. Serafico,

Reviewers: Ma. Lennie F. Pamposa, Elsie P. Serafico and John Mark Q. Apellado

Illustrators: Zoila Mae P. Panes, Riza E. Celebrado and Marvin P. Pagurayan

Layout Artists: Catherine P. Padrones, Edgardo D. Pamugas III and
Mary Grace N. Prologo

Management Team: Ramir B. Uytico
Pedro T. Escobarte Jr
Elena P. Gonzaga
Donald T. Genine
Athea V. landar
Jesse M. Gomez
Ma. Nilma E. Casamayor
Dexter P. Diergos
Winifred S. Panes

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Department of Education – Region VI

Office Address: Duran Street, Iloilo City, 5000
Telephone Nos.: (033) 509-7653; (033) 336-2816
E-mail Address: region6@deped.gov.ph
Website: region6.deped.gov.ph

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Health

Quarter 2 – Module 4:
Proper Waste Management

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Introductory Message

This Self-Learning Module (SLM) is prepared so that you, our dear learners, can continue your studies and learn while at home. Activities, questions, directions, exercises, and discussions are carefully stated for you to understand each lesson.

Each SLM is composed of different parts. Each part shall guide you step-by-step as you discover and understand the lesson prepared for you.

Pre-tests are provided to measure your prior knowledge on lessons in each SLM. This will tell you if you need to proceed on completing this module or if you need to ask your facilitator or your teacher's assistance for better understanding of the lesson. At the end of each module, you need to answer the post-test to self-check your learning. Answer keys are provided for each activity and test. We trust that you will be honest in using these.

In addition to the material in the main text, Notes to the Teacher are also provided to our facilitators and parents for strategies and reminders on how they can best help you on your home-based learning.

Please use this module with care. Do not put unnecessary marks on any part of this SLM. Use a separate sheet of paper in answering the exercises and tests. And read the instructions carefully before performing each task.

If you have any questions in using this SLM or any difficulty in answering the tasks in this module, do not hesitate to consult your teacher or facilitator.

Thank you.

What I Need to Know

This module was designed and written with you in mind. It is here to help you practice proper waste management at home, in school, and in the community.

The module consists of only one lesson:

- Lesson 1 – Proper Waste Management

After going through this module, you are expected to practice proper waste management at home, in school, and in the community **(H6CMH-IIh-8)**.

What I Know

Directions: Write **Agree** if the statement tells proper waste management at home, in school, and in the community and **Disagree** if it does not. Write your answers on a separate sheet of paper.

1. Burn plastic packaging to manage waste problems.
2. Convert kitchen wastes like fruit and vegetable peelings into compost.
3. Segregate biodegradable, non-biodegradable and recyclable waste at home.
4. Pick garbage that is scattered in the community and dispose it in the proper trash bin.
5. Dispose dead animals in the canal or other bodies of water.
6. Label the garbage cans properly in school for the children to practice correct disposal of waste.
7. Recycle plastic products into art projects to minimize the wastes.
8. Support the Clean and Green Program of the community to maintain the cleanliness of a place.
9. Throw empty bottles of chemical sprays in the vacant lots.
10. Sell scraps in the junkshop to reduce waste and earn money.

Lesson 1 Proper Waste Management

Wastes are found in our home, school and community. These wastes are classified as biodegradable, non-biodegradable and hazardous. Wastes found in school, in the community and at home should be managed properly to reduce them, to prevent diseases or illnesses and to maintain a healthy environment.

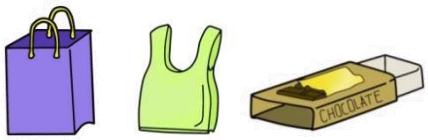
What's In

Waste management is the collection, transportation and disposal of garbage, sewage and other waste products. Improper waste management causes problems like clogged canals or drainage, flooding and various diseases that make our environment unsafe. It is a big challenge to the school, home and the community on how to involve people in proper segregation of wastes. If biodegradable, non-biodegradable and hazardous wastes can be classified and managed properly, we can easily identify which can be re-used or converted into new things to reduce wastes. How beautiful it is seeing no waste or garbage scattering in our community.

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

What's New

A. Directions: These kids are given the task to properly manage the wastes found at home, in school, and in the community. Help them manage the problem by choosing the letter of the correct answer. Write your answers on a separate sheet of paper.

1. 

2. 

3. 

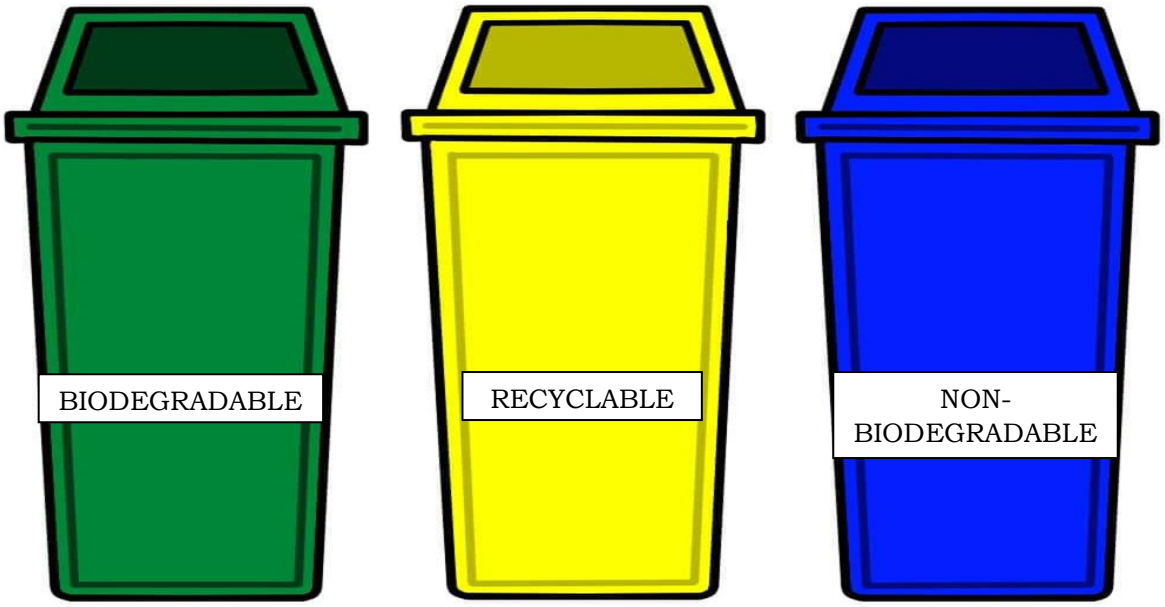
A. Convert into a fertilizer through composting.

B. Put the waste in a sealed container and dispose properly by burying in specially built landfills or pit.

C. Reuse the packaging.

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

B. Directions: Do you know that there are color-coded bins to sort our wastes easily? Take a look at the pictures of the waste sorting bins. Do you have these in your school?



Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

Let's read this poem. Answer the questions below. Write your answer on a separate sheet of paper.

"Color-coded Bins"

by: Francilet R. Padios

Here is a green bin, biodegradable waste…you pitch in!

Next bin is yellow, recyclable waste…off you throw!

Third bin is blue, non-biodegradable waste…you put there too!

Throw it in…always put the waste in the proper bin!

1. According to the poem, where should you pitch in your biodegradable waste?
2. What color of the bin should a non-biodegradable waste be placed?
3. The wastes are recyclable. Where should you throw your waste?
4. What colors are used for coding the biodegradable, non-biodegradable and recyclable wastes?

What is It

Directions: The pupils are sharing ideas about different types of wastes found in school, home and community and how to manage them properly. Read the comic strip to answer some questions about proper waste management.

Different types of wastes can be classified into three: **biodegradable, non-biodegradable and hazardous wastes.**

Biodegradable wastes are wastes that decompose *(nabubulok).* Yard cuttings like leaves, twigs, paper products and kitchen wastes belong to this type of wastes.

Kitchen wastes like spoiled food, fish and meat bones, fruits and vegetable peelings are examples of biodegradable wastes. These could be used in feeding animals like chicken, ducks, pigs and other animals. These wastes can also be used in composting.

Non-biodegradable wastes are wastes that do not decompose *(hindi nabubulok).* Plastics, glasses, cans and metal scraps belong to this type of wastes. We can recycle these wastes or sell them in the junkshops.

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

Hazardous wastes have toxins. They are explosive and poisonous. They can burn our skin as well as metals and can also carry diseases. This dangerous type of wastes include expired medicines, used bulbs, chemicals and batteries.

Hazardous wastes like paint, solvent, gasoline, thinner, varnish, fertilizer and muriatic acid should be handled properly because they can poison our body if accidentally touched eaten or drank. It is advised to use gloves and masks in handling these materials. Cover your nose or wash your hands when exposed to these substances.

We should classify our wastes to properly manage them. We should put them in the proper bin or garbage can or container. We can even recycle or reuse wastes to minimize garbage problems.

There is a need for the people to find ways on how to solve waste problems, because it is our responsibility to protect our environment. Together, we can do it by being responsible citizens. This is one way of showing love to our planet Earth.

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

Directions: Read the questions carefully about how to manage wastes properly. Choose the letter only of the correct answer and write it on a sheet of paper.

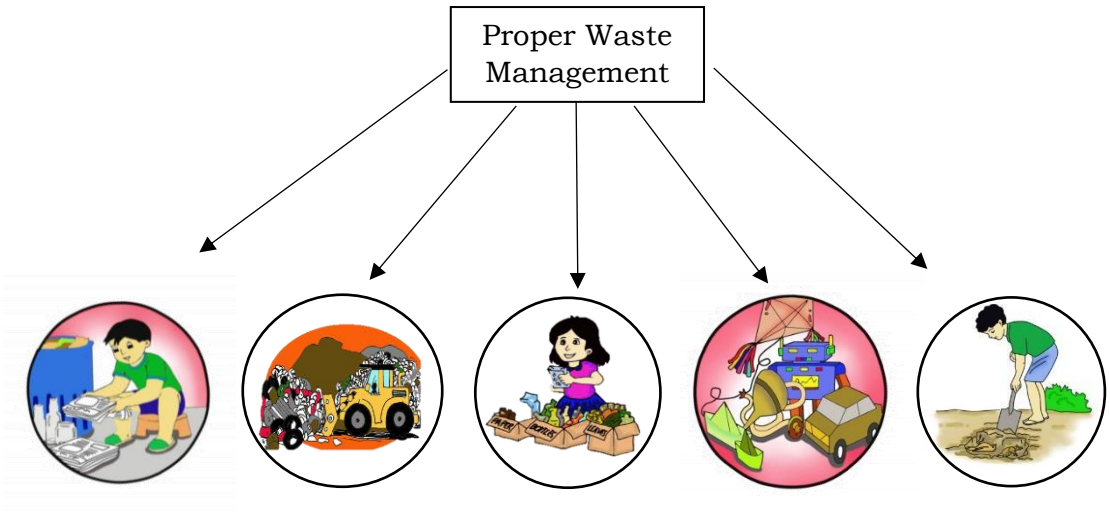
1. Fruit and vegetable peelings are biodegradable wastes. How should these wastes be managed?
   A. Throw in the canal.
   B. Use the wastes for composting activity.
   C. Sell in junkshops.
   D. Dispose anywhere.
2. Plastics and metal scraps are non-biodegradable wastes. What should be done to manage these?
   A. Put it in a sack and throw it in a vacant lot.
   B. Sell in the junkshop.
   C. Leave the waste scattering in the area.
   D. Throw in the compost pit.
3. Hazardous wastes are poisonous. What should be done in handling this type of waste?
   A. Use gloves and mask in handling the materials.
   B. Pick with your hands and throw in the trash can.
   C. Put in the compost pit.
   D. Collect and place near your food products.
4. Your family decides to have a backyard compost pit. What waste materials should be included as compost materials?
   A. cans and plastic containers
   B. expired medicines and metal scraps
   C. leaves, twigs and food waste
   D. bottles and old newspapers
5. Which of the following is a proper management of waste?
   A. Throw the trash anywhere if nobody is watching.
   B. Dump hazardous waste in the river.
   C. Burn non-biodegradable waste like plastic packaging to reduce waste.
   D. Feed biodegradable wastes like plant peelings to animals.

Remember:

Classifying and managing wastes found in school, home and community would help us minimize problems about garbage. Biodegradable wastes should not be automatically thrown in bins. Composting, a method taught in Agriculture subject, would help in converting biodegradable wastes into organic fertilizer. Dead animals and rotten plants should be buried in the pit to prevent foul odor and to make them into compost.

Non-biodegradable wastes should be converted into useful things. There are so many DIY's or "Do It Yourself" projects that you can do out of the wastes that do not decompose. Use your creativity to make new materials such as toys, decorations, art projects and others.

Hazardous wastes are dangerous wastes. It is advised to put this type of waste in a sealed container and dispose properly by burying in specially built landfills or pit. Dispose this type of waste with adult supervision.



Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

What's More

A. Directions: The pupils are sharing ideas about proper waste management at home, in school, and in the community. Read carefully and answer the checklist that follows after reading this.

Proper Waste Management at Home

Have bins for the different kinds of wastes at home.

2. Throw biodegradable wastes like fruit and vegetable peelings, dried leaves and grasses into the backyard compost pit to convert them into fertilizer. Don't burn the garbage at home.

3. Sell plastic bottles, tin cans and metal scraps in the junk shop to lessen wastes at home.

4. Convert wastes at home into school projects or outputs.

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

Proper Waste Management in School

1. Separate, reduce, reuse and recycle school wastes.

2. Have an Income Generating Project in school like selling recycled stuffs.

3. Turn into compost all biodegradable scraps in school.

4. Follow instructions on how to manage wastes in the Material Recovery Facility or MRF.

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

Proper Waste Management in the Community

1. Collect, segregate and store the different types of wastes properly.
2. Secure the garbage bag tightly to prevent animals from scattering them.
3. Support clean-up activities of waterways, canals, creeks and public places in the community.
4. Observe the schedule of garbage retrieval by garbage collectors or garbage trucks.

Always remember that proper waste management is the responsibility of all. If we fail to manage our wastes, there will be flash flood due to clogged drainage. Pests like rats, cockroaches and mosquitoes will multiply if garbage is not managed well. A dirty and smelly environment is unhealthy. Diseases will spread if we will not take care of our own wastes.

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

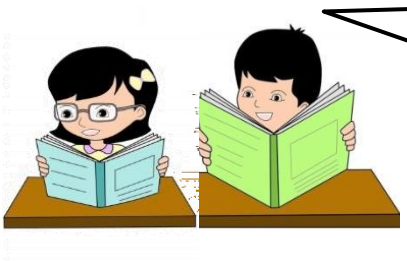
CHECKLIST OF PARTICIPATION

B. Directions: Answer the checklist honestly with **YES** or **NO** as to your participation in managing waste at home, in school and community. Write your answers on a sheet of paper.

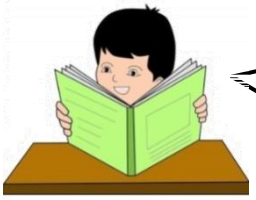
A. WASTE MANAGEMENT AT HOME	YES	NO
1. Throws trash in proper bins		
2. Maintains a backyard compost pit		
3. Collects recyclable wastes and sells in junkshops		
4. Converts wastes into useful things		
B. WASTE MANAGEMENT IN SCHOOL		
1. Segregates wastes in school		
2. Brings biodegradable waste in the school's compost pit		
3. Saves plastic packaging during recess for recycling		
4. Joins the routine of cleaning school areas		
C. WASTE MANAGEMENT IN THE COMMUNITY		
1. Participates in community programs like Clean Up Drives		
2. Secures waste in a container or sack before disposing them in the community's waste recovery facility		
3. Segregates wastes found in the community		
4. Maintains the cleanliness of your own area in the community		

Did you check more on Yes or No? If you have more "Yes" then you are helping a lot in managing waste. If you have more "No" then it is time for you to participate in proper waste management. It will never be too late to join or show acts of kindness in helping solve our problems in managing waste. Encourage your family members to take part in saving or protecting our environment.

C. Directions: Let's meet Lino and Lina. Read and understand their story. Find out how to practice proper waste management at home, in school and in the community?



Hello there! We are Lino and Lina. We are here to tell you the **5Rs** of waste management to make our school, home and community clean.

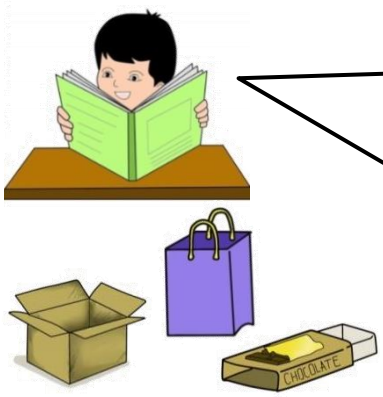


The 5Rs of waste management are:

REDUCE
REUSE
RECYCLE
RECOVER
REPAIR

REDUCE!
Lessen the amount of your trash. Think before buying.

- Buy only what you need.
- Don't buy products with unnecessary packaging.
- Refuse plastic bags. Bring your own bag when shopping.

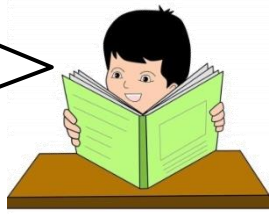


REUSE!
Find other uses for the materials that are already used.

- Use reusable things rather than disposables.
- Reuse scrap paper for taking notes.
- Reuse packaging materials.

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

RECYCLE
Create a new product out of the material that already served its purpose. It's taking something and using it for something else.



We can earn money if we will think of ways to reuse or recycle wastes. Take a look at the diagram on how we can manage or convert wastes into useful things.

plastic bottles  → plant holder 

straws  → mat 

jar  → organizer 

plastic spoons  → decoration 

used colored papers  → paper bags 

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan / Photos by Francilet R. Padios

RECOVER
Recover energy that comes from trash itself.

Incineration technology involves producing electricity by burning garbage that cannot be recycled in the incinerator. This combustion or thermal treatment can be used to generate heat, gas and steam for power. Look at how energy is recovered from wastes.

Recovery

Fuel and Heat

Wastes

Electricity

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After reading the story, what are your realizations about waste management? Will it be difficult for you to do one of the 5R's mentioned by Lino and Lina? In your own home, which of the 5R's did you and your family do? How about in your school? Is your community supporting the 5R's of waste management?

Being a responsible member in home, school and community is of great help in maintaining a healthy environment. Choose to be a person who in little ways or perhaps in big ways could manage the trash properly.

What I Have Learned

Directions: Fill in the blank with the correct word or words inside the box. Write your answers on a separate sheet of paper.

1. Put _____ in the garbage bins or trash cans the different kinds of wastes in school and make sure that the right bins are used properly.
2. Bury food scraps, plants and dead animals in the _____ to convert into compost.
3. Recycle bottles, tin cans and paper found in the community by selling them in _____.
4. We should properly _____ waste found in the community.
5. Manage reusable wastes at home by _____ them into toys, art projects and home decorations.

junkshops	recycling	labels
pit	segregate	

What I Can Do

Directions: Take a look at the different types of wastes in **Column A**. Choose the letter of the correct answer on how to manage the wastes properly in **Column B**. Write your answers on a separate sheet of paper.

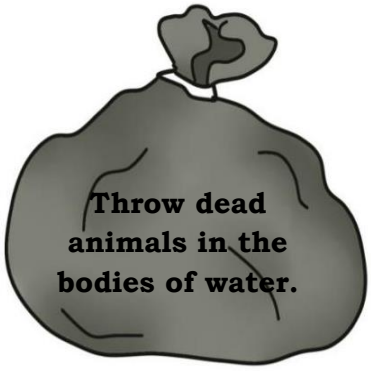
Column A	**Column B**
1.  metal scraps	A. Convert into musical instrument like tambourine.
2.  paper bag	B. Put in the compost pit.
3.  bottle caps	C. Sell in the junkshop.
4.  animal manure	D. Donate to a school library or give to children as reading materials.
5.  old books	E. Reuse the packaging material.

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

Assessment

A. Directions: Write **C** if the statement shows proper management of wastes and **X** if it does not. Write your answers on a separate sheet of paper.

1. _____



2. _____

3. _____

4. _____

5. _____

Illustrated by Zoila Mae P. Panes, Riza E. Celebrado, and Marvin P. Pagurayan

B. Directions: Write **True** if the statement shows proper management of wastes and **False** if it does not. Write your answers on a separate sheet of paper.

1. Put the biodegradable wastes in a green bin.
2. Secure the garbage bag tightly to prevent animals from scattering the trash in the community.
3. Throw empty plastic wrappers under the chair when nobody is watching.
4. Join community services like Clean and Green Program to help in the management of wastes.
5. Gloves and masks are not needed in handling hazardous materials.

Thank you for accomplishing this module. Congratulations!

Additional Activity

Directions: Waste materials can be used in making musical instruments. Take a look at how these materials can be useful in making a rattle for your Music activities.

RATTLES

You need the following:

1. Containers like (any of the following) jar, can, plastic bottle or small box
2. Rattle materials like seeds, small stones, paper clips, sand or small metal scraps (any of the following)
3. Tape

Photo by Francilet R. Padios

Procedures

1. Choose the container for your rattle.
2. Put your chosen rattle material inside the container.
3. Cover the container tightly and secure with a tape.
4. Shake your rattle to produce sound.

It is now ready as a percussion instrument in your Music class.

Note: You may use other waste materials found in school, home and community in making your improvised musical instrument.

Answer Key

What I Know

1. Disagree
2. Agree
3. Agree
4. Agree
5. Disagree
6. Agree
7. Agree
8. Agree
9. Disagree
10. Agree

What's More

B. Pupils answer may vary

Assessment

A.
1. C
2. X
3. C
4. C
5. X

What's New

A.
1. C
2. A
3. B

B.
1. green bin
2. blue bin
3. yellow bin
4. green, yellow and blue bins

What I Have Learned

1. labels
2. pit
3. junkshops
4. segregate
5. recycling

B.
1. True
2. True
3. False
4. True
5. False

What Is It

1. B
2. B
3. A
4. C
5. D

What I Can Do

1. C
2. E
3. A
4. B
5. D

Additional Activity

Output: Rattle as a percussion instrument for Music class

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For inquiries or feedback, please write or call:

Department of Education – Bureau of Learning Resources (DepEd- BLR)

Office Address: Ground Floor, Bonifacio Building, DepEd Complex
Meralco Avenue, Pasig City, Philippines 1600

Telefax: (02) 634-1072 or 634-1054; 631-4985

E-mail Address: blr.lrqad@deped.gov.ph * blr.lrpd@deped.gov.ph